



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/993,176	11/19/2001	Klaus Herrmann	P01,0398	6825
26574	7590	11/04/2004	EXAMINER	
SCHIFF HARDIN, LLP PATENT DEPARTMENT 6600 SEARS TOWER CHICAGO, IL 60606-6473			JUNG, WILLIAM C	
			ART UNIT	PAPER NUMBER
			3737	
DATE MAILED: 11/04/2004				

8

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/993,176	HERRMANN, KLAUS	
	<b>Examiner</b>	<b>Art Unit</b>	
	William Jung	3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 29 January 2004.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-38 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-38 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
     1. Certified copies of the priority documents have been received.  
     2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
     3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

## **DETAILED ACTION**

1. Applicant's arguments filed January 29, 2004 have been fully considered but they are not persuasive.

The applicant's argument on remarks on pages 7-8 alleged that the prior art (cited in Office Action dated November 6, 2003), Yanof et al's disclosure is different from the current application's claimed invention. The applicant states that Yanof et al's disclosure only deals with images acquired before the surgical procedure (page 8, lines 1-5) and does not concern with producing location indicator of actual subject on the operating table. In contrary to the applicant's statement, Yanof et al explicitly states that the location of a surgical tool is specifically guided to a target location by inserting biopsy needle into a patient while the imaging device (CT or fluoroscope) provides feedback to generate the position of the surgical tool relative to the target location. Therefore, Yanof et al clearly anticipate all claimed elements in claims 1 and 19. Thus, the rejection of claims 1-38 holds as in previous office action, which is restated below.

### *Response to Amendment*

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1-8, 10-12, 16-27, 29-31, and 35-38 are rejected under 35 U.S.C. 102(b) as being anticipated by *Yanof et al* (US 6,149,592).

***Claims 1, 7, 19, 20, and 26:*** Yanof et al anticipate all claimed invention in claims 1 and 20. Yanof et al disclose of method and apparatus of generating three-dimensional volume data and two-dimensional images from the volume data (frame or projection) with marker locating a reference points 70, 72 of object in interest. The markers represent the reference point to characterize the location of the images (col. 2, lines 32-56).

***Claims 2, 16, 21, and 35:*** Yanof et al's imaging system and method is further described as being X-ray imaging and furthermore, the X-ray imaging system and method is a C-arm Computed -Tomography (col. 4, lines 7-25).

***Claims 3, 4, 5, 22, 23, and 24:*** Yanof et al also disclose of the imaging system and method described above with the use of X-ray driven to generate volume data via projection where the X-ray driver includes motor that is automated to created multiple images (col. 3, lines 34-60). Furthermore, the characterization of the reference point is in communication with the drive controlling the x-ray device (col. 4, lines 48-64).

***Claims 6, 8, 25, and 27:*** Yanof et al disclose of generating the volume data set through the use of computer and image processor 102, 120 along with image display 134 to display 134 the volume data (col. 6, lines 31-44; col. 6, lines 53-65).

***Claims 10, 11, 12, 29, 30, and 31:*** Furthermore, Yanof et al disclose of the characterization of the reference point is in communication with the drive controlling the x-ray device where the movement of the reference marker is automatically correlated with the movement of the rotation of the C-arm (col. 4, lines 48-64).

***Claims 17, 18, 19, 36, 37, and 38:*** Yanof et al disclose of angular rotation about an orbital axis to generate the volume data set through CT imager. Previously, Yanof et al disclosed

of using C-ram x-ray to achieve the volume data set. Therefore, Yanof et al clearly anticipate that the C-arm can be applied to create volume data set as in CT imaging device and method.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 9 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Yanof et al* as applied to claims 1 and 19 above, and further in view of *Hardy et al* (US 5,354,314).

*Yanof et al* substantially disclose of all claimed invention in claims 9 and 28 where the computer system to generate the volume data from the x-ray projection inherently includes computer input peripheral device such as keyboard, mouse, trackball (inverted mouse), touch pen, etc., with exception of inputting the marker. *Hardy et al* disclose the use of touch screen as input device when using imaging device such as CT (col. 12, line 53 – col. 13, lines 22). Therefore, it would have been obvious to one having an ordinary skill in the art at the time the invention was made to apply the teachings of *Yanof et al* to the teachings of *Hardy et al*'s touch screen input to achieve the claimed invention.

6. Claims 13, 14, 15, 32, 33, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Yanof et al* as applied to claims 1 and 19 above, and further in view of *McNeirney et al* (US 6,096,049).

*Yanof et al* substantially disclose of all claimed invention in claims 13, 14, 15, 32, 33, and 34. Furthermore, *McNeirney et al* teach that the light or optical guiding of a medical device

or imaging device is well known, where light, optical or laser is used to indicate the point of interest for the medical imaging device (col. 2, lines 25-57). Therefore, it would have been obvious to one having an ordinary skill in the art at the time the invention was made to apply the teachings of Yanof et al to the teachings of McNeirney et al's light or optical guidance of medical imaging device to achieve the claimed invention.

***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William Jung, Ph.D. whose telephone number is 703-605-4364. The examiner can normally be reached on Mon-Fri 8:30 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 703-308-3552. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WCK  
October 24, 2004

ELENI MANTIS MORLADE  
ELENI MANTIS MORLADE  
PRIMARY EXAMINER  
ART UNIT 3737